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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/052,397	01/23/2002	Shinobu Kayama	68214	3926

23373 7590 09/17/2003

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EXAMINER

MCCAMEY, ANN M

ART UNIT PAPER NUMBER

2833

DATE MAILED: 09/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/052,397	Applicant(s) KAYAMA ET AL.	
	Examiner Ann M McCamey	Art Unit 2833	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

Claims 1 and 2 are objected to because of the following informalities: "the circuit board" (claim 1, line 3) should be --a circuit board--; "a circuit board" (claim 1, line 5; claim 2, line 5) should be --the circuit board--. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3 and 6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 3 and 6 recite the limitation of "a groove...split into at least two pieces." It is unclear how a groove (an empty space) can be split.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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Claims 5 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Isaburo (JP 6-052913).

Regarding claim 5, Isaburo discloses a board connector comprising: terminals 3 protruding in an attachment direction from an attachment surface; a positioning projection 4 protruding in the attachment direction from the attachment surface; and an attachment arm 5 independent of said positioning projection, provided at a side surface of the board connector and extending in the attachment direction, said attachment arm being substantially L-shaped, provided on a surface which is not the attachment surface, and having an engagement projection 7 at a tip end thereof; wherein a projecting length of said positioning projection from the attachment surface is greater than projection lengths of said terminals from the attachment surface.

Regarding claim 10, Isaburo discloses the attachment arm not serving as a terminal.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al. (US 6,083,044, Fig. 1). Please refer to Attachment A (Part of Office Action Dated 4/1/03) for a characterization of the features.

Regarding claims 1 and 8, the method of use is inherent to the device and is rejected on the same grounds as the rejection of the device to follow.

Regarding claim 2, Wang et al. disclose the invention substantially as claimed including an attachment structure of a board connector, the board connector including terminals protruding in an attachment direction from the attachment surface thereof opposing to a circuit board, said attachment structure comprising: a positioning projection on the attachment surface of the board connector opposing to the circuit board so as to protrude in an attachment direction from the attachment surface, said positioning projection having a projecting length greater than projection lengths of said terminals from the attachment surface, said positioning projection being inserted into a positioning hole provided at the circuit board prior to insertion of the terminals into through holes; and an attachment arm provided at a side surface of the board connector and protruding in the attachment direction, said attachment arm being engaged with an attachment portion provided at the circuit board, whereby the board connector is fixed to the circuit board.

Wang et al. do not disclose the positioning projection being integrally formed with the attachment surface of the board connector. It has been held that use of a one piece construction instead of a prior art structure teaching multiple parts is a matter of obvious engineering choice. *In re Larson*, 340 F.2d. 965, 144 USPQ 347 (CCPA 1965). It would have been obvious to one having ordinary skill in the art to form integrally the positioning projection with the attachment surface of the board connector of Wang et al. to reduce the number of parts to simplify assembly.

Regarding claim 3, Wang et al. disclose a groove being formed at a tip end portion of said positioning projection, and said groove is split into at least two pieces in a longitudinal direction of said positioning projection, and said tip end of said positioning projection is elastically deformed in a radial direction of the positioning hole when said positioning projection is inserted into the positioning hole.

Regarding claim 4, Wang et al. disclose the projecting length of said positioning projection from the attachment surface being greater than a projection length of said attachment arm from the attachment surface.

Regarding claim 9, Wang et al. disclose the positioning projection protruding further from the attachment surface than the attachment arm.

Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Isaburo in view of Wang et al.

Regarding claim 6, Isaburo discloses the invention substantially as claimed, but does not disclose a groove being formed at a tip end portion of said positioning projection. Wang et al. teach a positioning projection with a groove formed at a tip end portion. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the positioning projection of Isaburo with the one taught by Wang et al. for better gripping of the board by the projections.

Regarding claim 7, Isaburo discloses the invention substantially as claimed, but does not disclose the projecting length of the positioning projection being greater than a projection length of the attachment arm. Wang et al. teach the projecting length of a positioning projection being greater than a projection length of an attachment arm. It

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would have been obvious to one having ordinary skill in the art at the time the invention was made to make the projecting length of the positioning projection greater than a projection length of the attachment arm in Isaburo to prevent deformation of the terminals during insertion.

Response to Arguments

Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ann M McCamey whose telephone number is (703) 305-3422. The examiner can normally be reached on M-F 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula A. Bradley can be reached on (703) 308-2319. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

AMM



RENEE LUEBKE
PRIMARY EXAMINER